

WHAT IS CLAIMED IS:

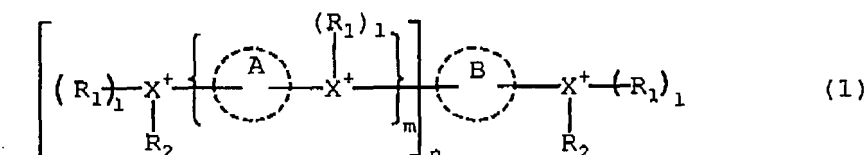
1. A negative resist composition comprising:

(A) a compound generating an acid upon irradiation with actinic rays or radiation, the compound having: a partial structure represented by the following formula (1); and a counter ion;

(B) an alkali-soluble resin; and

(C) a crosslinking agent of undergoing an addition reaction with the alkali-soluble resin (B) under the action of an acid,

wherein the composition comprises the compound (A) in an amount of from 3.6 to 15 wt% based on the solid content of the composition:



wherein X represents a sulfur atom or an iodine atom and the plurality of Xs may be the same or different,

R₁ and R₂ each independently represents an alkyl group which may have a substituent, or an aryl group which may have a substituent; when a plurality of R₁s are present, the plurality of R₁s may be the same or different; the plurality of R₂s may be the same or different; and R₁ and R₂ may combine to form a ring,

A and B each independently represents a hydrocarbon structure connecting between X⁺s, and at least two of X⁺s connected with B are in a conjugated system; and when a plurality of As are present, the plurality of As may be the same or different,

l represents 0 or 1, and, when X is a sulfur atom, 1 parenthesizing R₁ connected to X⁺ is 1 and when X is an iodine atom, 1 parenthesizing R₁ connected to X⁺ is 0,

m represents an integer of 0 to 10, and

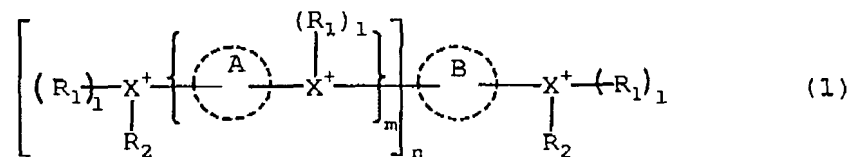
n represents an integer of 1 to 5.

2. A positive resist composition comprising:

(A) a compound generating an acid upon irradiation with actinic rays or radiation, the compound having: a partial structure represented by the following formula (1); and a counter ion; and

(D) a resin capable of increasing in the solubility in an alkali developer under the action of an acid,

wherein the composition comprises the compound (A) in an amount of from 3.6 to 15 wt% based on the solid content of the composition:



wherein X represents a sulfur atom or an iodine atom and the plurality of Xs may be the same or different,

R₁ and R₂ each independently represents an alkyl group which may have a substituent, or an aryl group which may have a substituent; when a plurality of R₁s are present, the plurality of R₁s may be the same or different; the plurality of R₂s may be the same or different; and R₁ and R₂ may combine to form a ring,

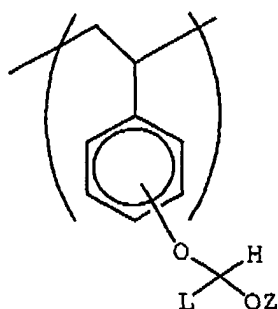
A and B each independently represents a hydrocarbon structure connecting between X⁺s, and at least two of X⁺s connected with B are in a conjugated system ; and when a plurality of As are present, the plurality of As may be the same or different,

l represents 0 or 1, and, when X is a sulfur atom, l parenthesizing R₁ connected to X⁺ is 1 and when X is an iodine atom, l parenthesizing R₁ connected to X⁺ is 0,

m represents an integer of 0 to 10, and

n represents an integer of 1 to 5.

3. The positive resist composition as claimed in claim 2, wherein the resin (D) is (D1) a resin capable of increasing in the solubility in an alkali developer under the action of an acid, the resin (D1) having a repeating unit represented by the following formula (IV) and a repeating unit represented by the following formula (V):



(IV)



(V)

wherein L represents a hydrogen atom, a linear, branched or cyclic alkyl group which may be substituted, or an aralkyl group which may be substituted,

Z represents a linear, branched or cyclic alkyl group which may be substituted, or an aralkyl group which may be substituted, and

Z and L may combine to form a 5- or 6-membered ring.

4. The positive resist composition as claimed in claim 3, wherein the molar ratio of the repeating unit represented by formula (IV) to the repeating unit represented by formula (V) is (IV)/(V)=10/90 to 40/60.

5. The negative resist composition as claimed in

claim 1, which further comprises (F) a nitrogen-containing basic compound.

6. The positive resist composition as claimed in claim 2, which further comprises (F) a nitrogen-containing basic compound.

7. The negative resist composition as claimed in claim 1, wherein the counter ion in the compound (A) is one of an anion of an aliphatic sulfonic acid and an anion of an aromatic sulfonic acid.

8. The negative resist composition as claimed in claim 7, wherein the anion of an aliphatic sulfonic acid and an anion of an aromatic sulfonic acid contain a fluorine atom as a substituent.

9. The positive resist composition as claimed in claim 2, wherein the counter ion in the compound (A) is one of an anion of an aliphatic sulfonic acid and an anion of an aromatic sulfonic acid.

10. The positive resist composition as claimed in claim 9, wherein the anion of an aliphatic sulfonic acid and an anion of an aromatic sulfonic acid contain a

fluorine atom as a substituent.

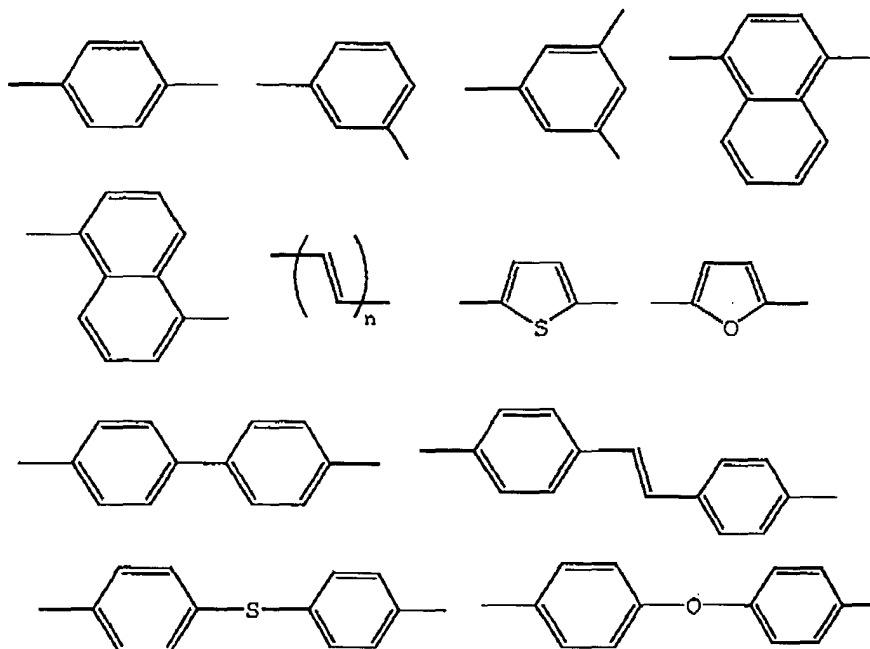
11. The negative resist composition as claimed in claim 1, wherein in the formula (1), B is a benzene ring, n is 1 and m is 0.

12. The positive resist composition as claimed in claim 2, wherein in the formula (1), B is a benzene ring, n is 1 and m is 0.

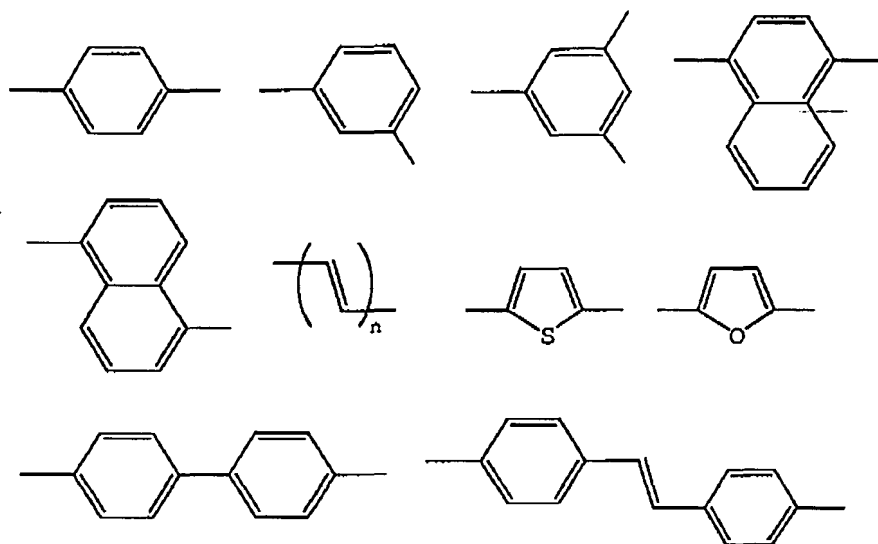
13. The negative resist composition as claimed in claim 1, wherein in the formula (1), the hydrocarbon structure of A is a hydrocarbon structure having: from 4 to 16 carbon atoms; a single bond consisting of (carbon-carbon) bond; and one of a double bond and a triple bond, and the hydrocarbon structure may have an oxygen atom or a sulfur atom.

14. The negative resist composition as claimed in claim 1, wherein in the formula (1), the hydrocarbon structure of B is a conjugated hydrocarbon structure having: from 4 to 16 carbon atoms; a single bond (carbon-carbon) bond; and one of a double bond and a triple bond, and the hydrocarbon structure may have an oxygen atom or a sulfur atom.

15. The negative resist composition as claimed in claim 1, wherein in the formula (1), the hydrocarbon structure of A is one of the followings:



16. The negative resist composition as claimed in claim 1, wherein in the formula (1), the hydrocarbon structure of B is one of the followings:

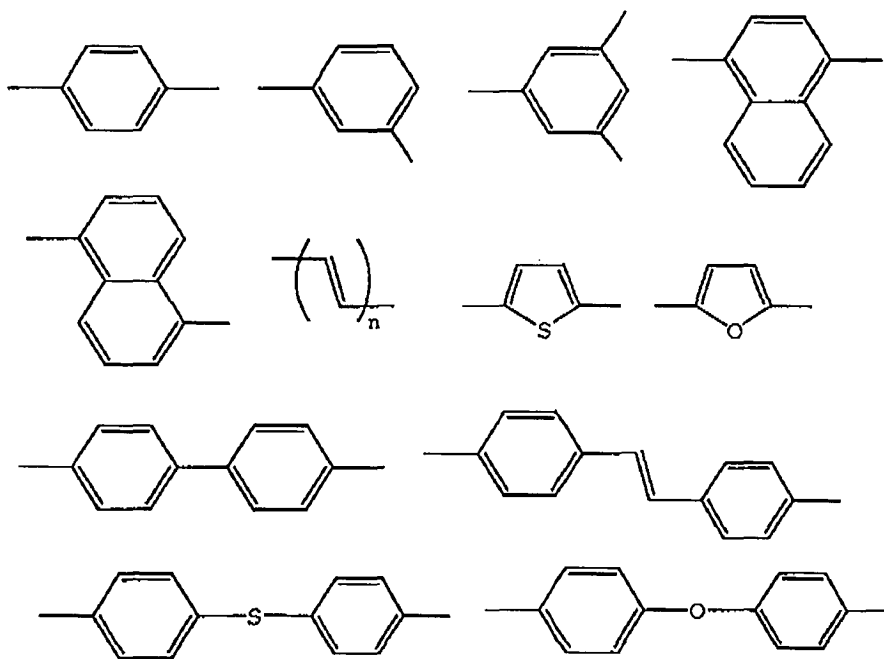


17. The positive resist composition as claimed in claim 2, wherein in the formula (1), the hydrocarbon structure of A is a hydrocarbon structure having: from 4 to 16 carbon atoms; a single bond consisting of (carbon-carbon) bond; and one of a double bond and a triple bond, and the hydrocarbon structure may have an oxygen atom or a sulfur atom.

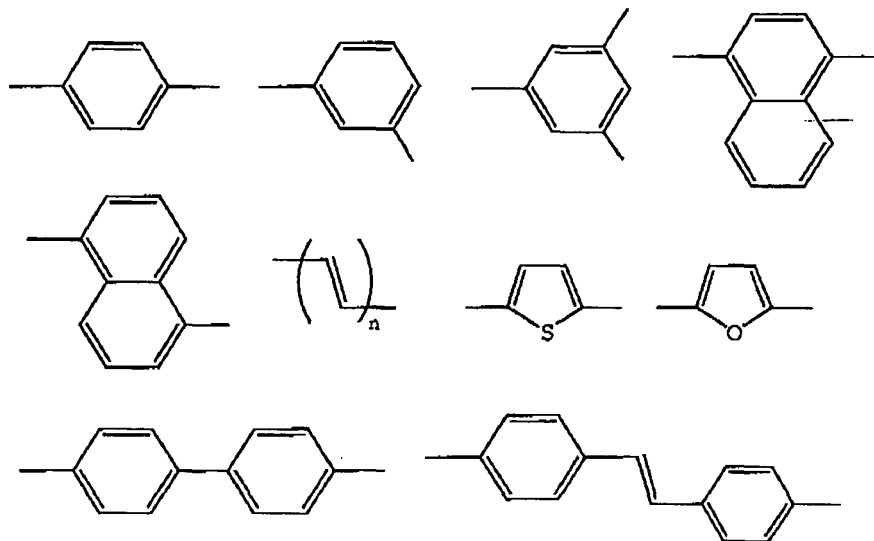
18. The positive resist composition as claimed in claim 2, wherein in the formula (1), the hydrocarbon structure of B is a conjugated hydrocarbon structure having: from 4 to 16 carbon atoms; a single bond (carbon-carbon) bond; and one of a double bond and a triple bond, and the hydrocarbon structure may have an oxygen atom or a

sulfur atom.

19. The positive resist composition as claimed in claim 2, wherein in the formula (1), the hydrocarbon structure of A is one of the followings:



20. The positive resist composition as claimed in claim 2, wherein in the formula (1), the hydrocarbon structure of B is one of the followings:



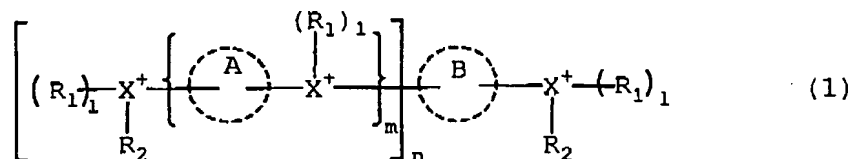
21. A positive resist composition comprising:

(A) a compound generating an acid upon irradiation with actinic rays or radiation, the compound having: a partial structure represented by the following formula (1); and a counter ion;

(B) an alkali-soluble resin; and

(C) a compound capable of increasing in the solubility in an alkali developer under the action of an acid,

wherein the composition comprises the compound (A) in an amount of from 3.6 to 15 wt% based on the solid content of the composition:



wherein X represents a sulfur atom or an iodine atom and the plurality of Xs may be the same or different,

R₁ and R₂ each independently represents an alkyl group which may have a substituent, or an aryl group which may have a substituent; when a plurality of R₁s are present, the plurality of R₁s may be the same or different; the plurality of R₂s may be the same or different; and R₁ and R₂ may combine to form a ring,

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